

REMARKS/ARGUMENTS

Applicant thanks Examiner for the detailed Office Action dated February 28, 2007. In response to the issues raised, the Applicant offers the following submissions and amendments.

Amendments

Claim 1 has been amended to clarify the elements distinguishing the present invention from the prior art. Claim 12 has been likewise amended.

Accordingly, the amendments do not add any new matter.

35 U.S.C. §103

Claims 1, 6, 7, 12, 17 and 18 stand rejected as obvious in light of US 4,611,219 to Sugitani et al in view of US 5,508,236 to Chiang et al.

As discussed above, amended claims 1 and 12 have been amended to highlight that the printhead has an underlying substrate that supports a unitary amorphous ceramic structure that provides the circular cross section chambers and the nozzle plate. The ordinary worker would readily understand that the term 'unitary' restricts the amorphous ceramic structure to a one piece construction, not an assembly of a number of components. The skilled reader would also appreciate that the simplified structure that this provides has benefits in fabrication time and accuracy (allowing greater nozzle density). Using a circular cross section and unitary construction avoids stress concentration sites in the chamber. The repeated pressure pulses from the heater bubbles can initiate cracks in a ceramic material which is prone to fatigue cracking and rapid crack propagation.

Sugitani discloses a sidewall laminated to a nozzle plate in the description at col 2, line 60 to col. 3, line 17. We submit that there no discussion of a unitary amorphous ceramic structure providing the nozzle plate and chamber sidewalls. Furthermore, there is no suggestion as to the potential benefits of a unitary nozzle plate and chamber sidewall, or the difficulties that must be addressed if this structures is formed with an amorphous ceramic.

Chiang is solely directed to ceramic compositions and their production. Therefore it is silent as to the unitary sidewall and nozzle plate structure of the present invention.

The cited references fail to teach all the elements of amended claims 1 and 12. Accordingly they do not support a §103 rejection.

Specification

The Applicant has amended pages 1 to 5 of the specification by deleting the paragraph entitled "Cross-references to related applications" and replacing it with a new updated paragraph. The US application numbers have merely been replaced by their corresponding US grant numbers, where applicable. The Applicant submits that these amendments introduce no new matter.

It is respectfully submitted that the Examiner's objections and rejections have been successfully traversed and the application is now in condition for allowance. Accordingly, favorable reconsideration is courteously solicited.

Very respectfully,

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